

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 10/521,231  
Applicant : Richard Plaschka et al.  
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Examiner : Kyle Robert Grabowski

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**MAIL STOP – Appeal Brief – Patents**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

**APPELLANTS' SECOND BRIEF ON APPEAL**

**UNDER 37 C.F.R. § 41.37**

Sir:

The following comprises the Appellants' Second Brief on Appeal from the rejection, dated May 12, 2010, of claims 1-36; the claims have been rejected a total of five times, the prior rejections being dated June 9, 2009 (backed to June 22, 2009), August 10, 2007, March 4, 2008, and December 9, 2008. This Brief is being filed on December 13, 2010. Appellants hereby petition for a one-month extension of time under 37 C.F.R. § 1.136(a) and submit the required fee herewith. Therefore, this Brief is timely filed on December 13, 2010, within three months of the September 13, 2010, Notice of Appeal.

Appellants had previously appealed the final rejection dated June 9, 2009 (backed to June 22, 2009) and filed their first Appeal Brief on March 22, 2010. In the May 12, 2010, Office Action, the Examiner indicated that, in view of the first Appeal Brief, prosecution has been reopened and new grounds for rejection set forth. Examiner Ross and Appellants' Representative had an interview on September 9, 2010, but no agreement was reached. Applicants then filed their second Notice of Appeal on September 13, 2010. Since the first Appeal never proceeded to the Board, and this second Appeal addresses substantially the same

issues, Applicants earnestly request that this Appeal be allowed to proceed to the Board.

According to the May 12, 2010, Office Action, Appellants' previously-paid appeal brief fee can be applied to this new appeal. Accordingly, no fee is believed due.

### **I. REAL PARTY IN INTEREST**

The real party in interest is Giesecke & Devrient GmbH, the assignee of this application.

### **II. RELATED APPEALS AND INTERFERENCES**

There are no other prior or pending appeals, interferences or judicial proceedings known to Appellants, the Appellants' legal representative, or assignee which may be related to, directly affect, be directly affected by, or have a bearing on the Board's decision in the pending appeal.

### **III. STATUS OF CLAIMS**

This application was filed as a National Phase Application based on International Application No. PCT/EP03/07658 with claims 1-31. Claims 32-36 were added by a Preliminary Amendment that was filed concurrently with the application. By the Office Action dated May 12, 2010, claims 1-4, 6-8, 10-12, 14, 24-27, 30-32, and 34-36 were rejected under 35 U.S.C. § 102(b), and claims 1-36 were rejected under 35 U.S.C. § 103(a). The rejections of claims 1-36 as set forth in the Office Action dated May 12, 2010, are being appealed.

### **IV. STATUS OF AMENDMENTS**

No other claim amendments have been filed since the Office Action dated May 12, 2010.

## **V. SUMMARY OF CLAIMED SUBJECT MATTER**

The present invention provides novel and nonobvious documents of value and security papers having a tangible relief structure formed by a laser, and methods for producing the documents of value or the security paper. See Substitute Specification (clean version) filed January 14, 2005 (hereinafter referred to as "Appellants' Specification" or "Spec.") at paragraph [02].

Documents of value (i.e., documents having an intrinsic value such as bank notes, checks, admission tickets, etc., or security documents such as passports, visas, identification papers, etc.) are often subject to attempted counterfeiting. Various systems have been developed in attempts to thwart such forgery, including security features (i.e., features that are difficult to counterfeit and that provide readily verifiable indications of authenticity) integrated with the document of value. See Spec. at paragraph [02].

One desirable aspect of security features is that they cannot be imitated by simple means. Security features that require special equipment or technical expertise to be reproduced can significantly limit the ability of counterfeiters to create convincing imitations. Another desirable aspect of security features is that they are easily verifiable. Security features that can be detected and verified without requiring auxiliary means (e.g., without requiring a magnifying lens, a special light source, or other special equipment) can be utilized at more points of exchange (e.g., at points of sale, redemption, interpersonal transfer, etc.).

According to embodiments of the present invention, tactile security features (i.e., security features that are detectable by the sense of touch) can provide the desirable aspects of security features described above as well as additional advantages.

Claims 1, 14, and 24 are the independent claims being appealed. Claim 1 defines a document of value. Claim 14 defines a security paper. Claim 24 defines a method for producing a tangible marking in a document of value, which includes a security paper. The subject matter of each of the independent claims is set forth below.

Claim 1, from which claims 2-13, 15-23, and 32-34 depend, is directed to a document of value. In some embodiments, the document of value can be a bank note, a check, a visa, a label, a passport page, or any other document to be protected against counterfeiting. See Spec. at paragraph [31].

The document of value includes a security paper having at least one tangible marking in the form of a relief structure. In some preferred embodiments the security paper is a paper that contains proportions of fibers of annual plants, such as cotton, linter, flax, etc. Spec. at paragraph [15]. Of these, particularly desirable results can be achieved using cotton vellum paper with an average fiber length of about 1 millimeter and having  $\text{TiO}_2$  as a filling material. Spec. at paragraph [16]; see also Spec. at paragraph [49] ("As particularly suitable fibrous substrate materials in this connection gave proven cotton velum paper and other cotton security papers, which compared to other papers possess long fibers with high tear strength"); Spec. at paragraph [81] (the paper, "preferably, is a pure cotton fiber paper or a mixture made of cotton and plastic fibers"); Spec. at paragraph [83] ("a paper made of cotton . . . ensures a regular and to a first approximation a solid surface"); Spec. at paragraph [109] (describing an embodiment including paper made of a mixture of cotton and plastic fibers with a plastic fiber proportion of 12.5 wt.% and a weight per unit area of 90 grams per square meter).

The security paper has at least one tangible marking in the form of a relief structure that is formed from cotton fibers of the security paper and is produced by a laser. The relief structure formed from cotton fibers can be, for example, cotton fibers that tangibly jut out over the surface of the paper. Spec. at paragraph [47]. In some embodiments, laser radiation breaks up the cotton fibers and fiber ends, due to their internal stress, jut out over the paper surface to form a tangible netting. Spec. at paragraph [48]; see also Spec. at paragraph [50] ("by means of laser radiation . . . the fiber structure of the fibrous substrate . . . is broken up, so that the fibers jut out over the substrate surface"); Spec. at paragraph [57] ("the break-up of the fiber structure leads to a relief structure, which is formed by fibers that jut out over the substrate surface"); Spec. at paragraph [84] "in the area of the laser marking the sized surface is broken up and the fibrous composite is loosened up"). Relief structures of this type can be, for example, between 30  $\mu\text{m}$  and 100  $\mu\text{m}$  in

height above the surface of the paper. Spec. at paragraphs [20], [106]. For cotton vellum papers, the relief structure can be formed using an Nd:NAG laser having a wavelength of about 1064 nanometers, with an average power of 65 W and a modulation frequency of about 10 kilohertz. Spec. at paragraph [19]. These parameters, as well as the spot size and speed at which the laser moves across the paper, can be adjusted to create different relief structures. Spec. at paragraphs [19]-[20].

Claim 14, from which claim 35 depends, is directed to a security paper for documents of value. In some preferred embodiments the security paper is a paper that contains proportions of fibers of annual plants, such as cotton, linter, flax, etc. Spec. at paragraph [15]. Of these, particularly desirable results can be achieved using cotton vellum paper with an average fiber length of about 1 millimeter and having TiO<sub>2</sub> as a filling material. Spec. at paragraph [16]; see also Spec. at paragraphs [49], [81], [83], [109].

The security paper includes at least one tangible marking in the form of a relief structure that is formed from cotton fibers of the security paper. The relief structure formed from cotton fibers can be, for example, cotton fibers that tangibly jut out over the surface of the paper. Spec. at paragraph [47]. In some embodiments, laser radiation breaks up the cotton fibers and fiber ends, due to their internal stress, jut out over the paper surface to form a tangible netting. Spec. at paragraph [48]; see also Spec. at paragraph [50], [57], [84]. Relief structures of this type can be, for example, between 30 μm and 100 μm in height above the surface of the paper. Spec. at paragraphs [20], [106].

The tangible marking is also produced by laser. For cotton vellum papers, the relief structure can be formed using an Nd:NAG laser having a wavelength of about 1064 nanometers, with an average power of 65 W and a modulation frequency of about 10 kilohertz. Spec. at paragraph [19]. These parameters, as well as the spot size and speed at which the laser moves across the paper, can be adjusted to create different relief structures. Spec. at paragraphs [19]-[20].

Claim 24, from which claims 25-31 and 36 depend, is directed to a method for producing a marking in a document of value, which includes a security paper. In some embodiments, the

document of value can be a bank note, a check, a visa, a label, a passport page, or any other document to be protected against counterfeiting. See Spec. at paragraph [31]. In some preferred embodiments the security paper is a paper that contains proportions of fibers of annual plants, such as cotton, linter, flax, etc. Spec. at paragraph [15]. Of these, particularly desirable results can be achieved using cotton vellum paper with an average fiber length of about 1 millimeter and having TiO<sub>2</sub> as a filling material. Spec. at paragraph [16]; see also Spec. at paragraph [49], [81], [83], [109].

The method includes a step of exposing the security paper to the radiation of a laser, and that the inscription parameters of the laser and the composition of the security paper are adjusted to each other in such a way, that the result is the tangible marking in the form of a relief structure that is formed from cotton fibers of the security paper. For cotton vellum papers, the relief structure can be formed, e.g., using an Nd:NAG laser having a wavelength of about 1064 nanometers, with an average power of 65 W and a modulation frequency of about 10 kilohertz. Spec. at paragraph [19]. These parameters, as well as the spot size and speed at which the laser moves across the paper, can be adjusted to create different relief structures. Spec. at paragraphs [19]-[20].

The relief structures according to claimed invention can provide numerous advantages. For example, the relief structures can be visually noticeable without any auxiliary means, thus providing a security feature that is readily verifiable. Spec. at paragraph [28]. Furthermore, the claimed relief structures cannot be imitated by simple means, but rather require large investments and a profound technical expertise, thus providing a security feature that is difficult to counterfeit. Spec. at paragraph [60]. Still further, the relief structures according to the present invention can be located anywhere on the document of value, including at or near the edge of the document, thus providing a tactile security element that can be checked very simply and quickly as the document is handled. Spec. at paragraphs [63], [93].

**VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

The following issues are presented by this appeal:

- (1) Whether claims 1-4, 6-8, 10-12, 14, 24-27, 30-32, and 34-36 are unpatentable under 35 U.S.C. § 102(b) as being anticipated by U.S. Pat. No. 5,990,444 to Costin ("Costin").
- (2) Whether claims 5, 9, and 33 are unpatentable under 35 U.S.C. § 103(a) as being obvious over Costin.
- (3) Whether claim 13 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Costin in view of WO 1998/003348 of Schell ("Schell").
- (4) Whether claims 1, 15-16, 23, and 28 are unpatentable under 35 U.S.C. § 103(a) as being obvious over U.S. Pat. No. 4,507,346 to Maurer et al. ("Maurer") in view of Costin.
- (5) Whether claims 17-22 and 29 are unpatentable under 35 U.S.C. § 103(a) as being obvious over Maurer in view of Costin and U.S. Pat. No. 6,082,778 to Solmsdorf ("Solmsdorf").
- (6) Whether claims 1-4, 5-9, 10-12, 14, 24-27, 30-33, and 34-36 are unpatentable under 35 U.S.C. § 103(a) as being obvious over Costin in view of U.S. Pat. No. 3,880,706 to Williams ("Williams").
- (7) Whether claim 13 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Costin and Williams in view of Schell.
- (8) Whether claims 1, 15-16, 23, and 28 are unpatentable under 35 U.S.C. § 103(a) as being obvious over Maurer in view of Costin and Williams.
- (9) Whether claims 17-22 and 29 are unpatentable under 35 U.S.C. § 103(a) as being obvious over Maurer in view of Costin and Williams as applied to claims 1 and 15-16, and further in view of Solmsdorf.

## **VII. ARGUMENT**

In the May 12, 2010, Office Action, the Examiner substantially repeated the majority of arguments from the June 9, 2009, Office Action, while failing to squarely address Appellants' previously submitted arguments from three previous replies and the first Appeal Brief. As such, with regard to issues (1) – (5), listed above, Appellants present substantially the same arguments to be reviewed. Issues (6) – (9), listed above, are the new bases for rejection in the May 12, 2010, Office Action, and Appellants have addressed these rejections below.

### **Claims 1-4, 6-8, 10-12, 14, 24-27, 30-32, and 34-36 are not anticipated by Costin.**

Claims 1-4, 6-8, 10-12, 14, 24-27, 30-32, and 34-36 were rejected under 35 U.S.C. § 102(b) as being allegedly anticipated by Costin. This rejection was made in error as claims 1-4, 6-8, 10-12, 14, 24-27, 30-32, and 34-36 recite features that are not disclosed by Costin.

A rejection under 35 U.S.C. § 102 requires a finding that “each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Furthermore, the reference must also disclose those elements arranged as in the claim. Sanofi-Synthelabo v. Apotex, Inc., 550 F.3d 1075, 1083 (Fed. Cir. 2008). That is, the reference must disclose the claimed invention without any need for picking, choosing, and combining various disclosures of the reference that are not directly related to each other. Id. (citing In re Arkley, 455 F.2d 586 (C.C.P.A. 1972)).

The Examiner has continually misinterpreted the teachings of Costin. Costin discloses a method for utilizing a laser to impart graphics onto fabric, leather, and vinyl materials. Costin, Abstract. See also, e.g., Costin, Table 4 (col. 11, ll. 27-54); Costin, Table 7 (col. 14, ll. 36-63). In some embodiments disclosed by Costin, graphic images can be imparted onto a variety of



fabrics made from natural and manmade fibers and blends. Costin, Col. 20 line 58 through Col. 21 line 12. Additionally, Costin teaches that the method can create a “relief look” (i.e., “a very muted design look”) on polyester and polyester/rayon blends “by partially melting a portion of the fibers of the fabric surface.” Costin, Col. 21 lines 13-31; see also Costin, Table 7 (col. 14, ll. 42-44) (disclosing laser parameters for “Polyester and Polyester Blends: Relief Look”). Costin also asserts that a “laser beam can form a graphic on the material by destroying, melting, shrinking, rumpling, crumpling, creping, watering or crimping the material”; however, Costin does not disclose or suggest the appropriate materials or laser parameters for creating these named effects. Costin, col. 29 lines 33-59.

#### *Independent Claim 1*

Costin is quite different from the present invention and fails to disclose or suggest each and every element as recited in claim 1. For example, Costin at least fails to disclose “a security paper” as recited in claim 1. Costin relates to the marking of fabrics and does not disclose or suggest marking any type of paper at all. The Examiner appears to argue that element 80 of Costin discloses this feature. Office Action dated May 12, 2010 (hereinafter “Office Action”), at page 3. However, element 80 is clearly and consistently described as “red polyester,” (Costin at col. 21 ll. 20, 23), not paper. The Examiner also cites Col. 20, line 60 as disclosing a paper. Office Action at page 3. However, the cited portion of Costin discloses fabrics made from natural and manmade fibers and blends, such as Cotton/Polyester Blends (i.e., cotton/polyester cloth). None of these recited fabrics would be reasonably interpreted as “a security paper” by any person having ordinary skill in the art.

Furthermore, Costin fails to disclose a “relief structure [that] is formed from cotton fibers of the security paper” as recited in claim 1. The Examiner cites Col. 21, lines 13-31 as supposedly disclosing this feature. Office Action at page 3. This position is clearly erroneous for at least two reasons:

First, the cited passages do not even purport to disclose a “relief structure,” but merely discloses a “relief look” comprising simply “a very muted design.” There is no indication anywhere in the cited passage that the method creates any actual relief, merely an appearance of relief. For example, at Col. 21 lines 21-23, the design is described as merely “a slightly darker red color than the [surrounding] red polyester” that is “at first very hard to visualize.”

Second, the “relief look” is only disclosed by Costin vis-à-vis polyester and polyester/rayon blends, and never suggested in association with cotton fabric or, for that matter, any other natural fibers. Costin, Col. 21 lines 14-16. Anticipation requires that “[e]very element of the claimed invention must be literally present, arranged as in the claim. Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236 (Fed. Cir. 1989) (emphasis added). See also Sanofi-Synthelabo v. Apotex, Inc., 550 F.3d 1075, 1083 (Fed. Cir. 2008); Connell v. Sears, Roebuck & Co., 722 F.2d 1542, 1548 (Fed. Cir. 1983) (“Anticipation requires the presence in a single prior art disclosure of all elements of a claimed invention arranged as in the claim.” (emphasis added)). Here, even if the cotton fabrics of Costin were somehow analogous to the security paper recited in claim 1 (they are not), and even if the “relief look” were somehow analogous to the relief structure recited in claim 1 (it is not), Costin does not disclose or suggest the cotton fabrics having the relief look. That is, even under an untenable interpretation of the claim elements, Costin does not disclose these disparate elements as arranged as in the claim. In fact, Costin indicates that these elements (the cotton fabrics and the relief look) cannot be arranged together. Costin discloses that the “relief look” is likely created by partially melting a portion of the fibers on the fabric surface. Costin, Col. 21 lines 23-25. Clearly, cotton does not melt and therefore the disclosed “relief look” of Costin cannot be formed from cotton fibers.

Because Costin at least fails to disclose a security paper and a relief structure that is formed from the cotton fibers of the security paper, Costin cannot anticipate claim 1. Furthermore, claims 2-4, 6-8, 10-12, 32, and 34 depend from claim 1 and incorporate all of the limitations recited therein and not disclosed by Costin. For at least this reason, Costin fails to anticipate these claims as well. Therefore the Examiner’s rejection of claims 1-4, 6-8, 10-12, 32, and 34 under 35 U.S.C. § 102(b) is improper and should be reversed.

*Independent Claim 14*

Costin does not anticipate claim 14 because Costin fails to disclose or suggest each and every limitation recited in claim 14. For example, as discussed with regard to claim 1, Costin at least fails to disclose “a security paper” and “a relief structure formed from cotton fibers of the security paper” as recited in claim 14. Furthermore, claim 35 depends from claim 14 and incorporates all of the limitations recited therein and not disclosed by Costin. For at least this reason, Costin fails to anticipate claim 35 as well. Therefore, the Examiner’s rejection of claims 14 and 35 under 35 U.S.C. § 102(b) is improper and should be reversed.

*Independent Claim 24*

Costin does not anticipate claim 24 because Costin fails to disclose or suggest each and every limitation recited in claim 24. For example, as discussed with regard to claims 1 and 14, Costin at least fails to disclose “a security paper” and “a relief structure that is formed from cotton fibers of the security paper” as recited in claim 24. Furthermore, claims 25-27, 30-31, and 36 depend from claim 24 and incorporate all of the limitations recited therein and not disclosed by Costin. For at least this reason, Costin fails to anticipate these claims as well. Therefore the Examiner’s rejection of claims 24-27, 30-31, and 36 under 35 U.S.C. § 102(b) is improper and should be reversed.

**Claims 5, 9, and 33 would not  
have been obvious over Costin.**

Claims 5, 9, and 33 were rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable, by reason of obviousness, over Costin. This rejection was made in error as claims 5, 9, and 33 recite features that are neither disclosed nor suggested by Costin.

A rejection under 35 U.S.C. § 103 requires a finding that “all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded nothing more than predictable results to one of ordinary skill in the art.” KSR International Co. v. Teleflex Inc., 550 U.S. 398, 415-416 (2007). Here, Costin does not disclose or suggest each and every feature of claims 5, 9, and 33 or even suggest that the features of these claims were known in the prior art.

As discussed above with regard to claims 1, 14, and 24, Costin at least fails to disclose or suggest “a security paper” and “a relief structure that is formed from cotton fibers of the security paper.” Furthermore, as discussed above, one skilled in the art would not have modified the elements of Costin (e.g., a cotton sheet and the relief look) in the way proposed by the Examiner, at least because Costin suggests that such a combination would not be operable (e.g., because cotton does not melt). These features, which would not have been obvious to one having skill in the art considering Costin, are incorporated into claims 5, 9, and 33 by their dependence on claim 1. Therefore claims 5, 9, and 33 are patentable over Costin, the Examiner’s rejection of claims 5, 9, and 33 under 35 U.S.C. § 103(a) is improper, and that rejection should be immediately reversed.

**Claim 13 would not have been obvious  
over Costin in view of Schell.**

Claim 13 was rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable, by reason of obviousness, over Costin in view of Schell. This rejection was made in error as claim 13 recites features that are neither disclosed nor suggested by these references.

Schell discloses a method for protecting a document using a laser etching process. Schell, page 1. According to Schell, at least part of a printed identification mark is repeated at another point on the document by changing the thickness of the document by means of laser

etching. Schell fails to remedy the deficiencies of Costin that have been identified above. For example, Schell fails to disclose or suggest a relief structure formed from cotton fibers of a security paper as recited in claim 1. First, Schell does not disclose or suggest a security paper having cotton fibers. Second, the laser etching disclosed by Schell removes material from the paper (i.e., reduces the thickness of the paper). This is quite different from the claimed invention, which forms a relief structure from cotton fibers, e.g., by causing the cotton fibers to jut out over the paper surface. These features, which would not have been obvious to one having skill in the art considering Costin in view of Schell, are incorporated into claim 13 by its dependence on claim 1. Therefore claim 13 is patentable over the combination of Costin and Schell, the Examiner's rejection of claims 14 and 35 under 35 U.S.C. § 103(a) is improper, and that rejection should be reversed.

**Claims 1, 15-16, 23, and 28 would not have  
been obvious over Maurer in view of Costin.**

Claims 1, 15-16, 23, and 28 were rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable, by reason of obviousness, over Maurer in view of Costin. This rejection was made in error as claims 1, 15-16, 23, and 28 recite features that are neither disclosed nor suggested by these references.

Maurer discloses a multilayer identification card in which part of the information is in the form of a structure in relief in a foamable synthetic material. Maurer, Abstract. A laser may be used to activate chemical or physical blowing agents in the foamable synthetic material to induce a locally controllable foaming process. Maurer, Abstract.

Maurer is quite different from the present invention, and the proposed combination of Maurer and Costin fails to disclose or suggest all of the features recited in claims 1, 15-16, 23, and 28. For example, the Examiner concedes that Maurer does not disclose that the relief structure is formed from cotton fibers in the paper. Office Action at page 5. As discussed above,

Costin fails to cure this deficiency. Costin fails to disclose or suggest any type of paper, fails to adequately disclose a relief structure, and fails to even disclose or suggest the relief look in association with cotton fibers. These features, which would not have been obvious to a person having skill in the art considering Maurer in view of Costin, are recited in claims 1 and 24 and are incorporated into claims 15-16, 23, and 28 by their dependence on claims 1 and 24. Therefore claims 1, 15-16, 23, and 28 are patentable over the combination of Maurer and Costin, the Examiner's rejection of claims 1, 15-16, 23, and 28 under 35 U.S.C. § 103(a) is improper, and that rejection should be reversed.

**Claims 17-22 and 29 would not have been obvious  
over Maurer in view of Costin and Solmsdorf.**

Claims 17-22 and 29 were rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable, by reason of obviousness, over Maurer in view of Costin and Solmsdorf. This rejection was made in error as claims 17-22 and 29 recite features that are neither disclosed nor suggested by these references.

Solmsdorf discloses a copy protection element comprising a metallic layer that is etched by a laser to incorporate recognizable markings. Solmsdorf, Abstract. According to Solmsdorf, a photocopier will not detect light specularly reflected from the metallic layer. Solmsdorf, Col. 2 lines 11-15. Thus, the markings etched into the metal layer may be easily perceivable by a person but would not be accurately reproduced in a photocopy. Solmsdorf, Col. 2 lines 15-25.

Solmsdorf fails to remedy the deficiencies of Maurer and Costin that have been identified above. For example, Solmsdorf fails to disclose or suggest a relief structure that is formed from cotton fibers in the paper. These features, which would not have been obvious to one having skill in the art considering Maurer in view of Costin and Solmsdorf, are incorporated into claims 17-22 and 29 by their dependence on claims 1 and 24. Therefore, claims 17-22 and 29 are patentable over the combination of Maurer, Costin, and Solmsdorf, the Examiner's rejection of

claims 17-22 and 29 under 35 U.S.C. § 103(a) is improper, and that rejection should be immediately reversed.

**Claims 1-4, 5-9, 10-12, 14, 24-27, 30-33, and 34-36 would  
not have been obvious over Costin in view of Williams.**

Claims 1-4, 5-9, 10-12, 14, 24-27, 30-33, and 34-36 were rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable, by reason of obviousness, over Costin in view of Williams. This rejection was made in error as claims 1-4, 5-9, 10-12, 14, 24-27, 30-33, and 34-36 recite features that are neither disclosed nor suggested by these references.

Williams discloses a method of making security paper, incorporating a thermoplastic material and raising a temperature of the thermoplastic material to a level at which the material fuses. Williams, Abstract. The object of Williams is to produce security paper that is difficult to delaminate. Williams, Col. 1 line 42.

The Examiner appears to cite Williams for the proposition that security paper may be formed of cotton fibers. Office Action at page 9. The Examiner claims that it would have been obvious to use the method of creating a relief on a cotton substrate as taught by Costin on a security paper formed of cotton fibers in view of Williams. Id. The Examiner argues that using a substantially similar substrate to impart the laser energy was recognized as part of the ordinary capabilities of one skilled in the art, to produce predictable results. Id. The Examiner further argues that a cotton fiber security paper used in lieu of a cotton substrate would have been an obvious substitution because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. Id.

*Independent Claim 1*

Costin in view of Williams fails to disclose or suggest each and every feature of claim 1. Williams does not remedy the deficiencies of Costin that have been identified above. For example, Williams fails to disclose or suggest a relief structure formed from cotton fibers of a security paper produced by a laser, as recited in claim 1. Cotton paper is briefly mentioned in Williams Col. 5, lines 33-43, as one example of the security papers made on the machines described in that reference. However, as extensively discussed above, blended cotton fabrics, as disclosed in Costin, are structurally different from security papers of cotton fibers. For example, the "relief look" of Costin cannot be formed of cotton fibers because cotton does not melt. Therefore, cotton fiber security paper would not have been an obvious substitution for cotton substrate in Costin. As such, a person of ordinary skill in the art would not have combined a teaching of laser scribing of various materials (particularly fabrics) (Costin), with a teaching of cotton paper (Williams). In fact, the Examiner's analysis appears to be classic hindsight reasoning, which is, of course, impermissible. Thus, this feature, which would not have been obvious to one having skill in the art considering Costin in view of Williams, is incorporated into claims 2-4, 5-9, 10-12, and 32 by their dependence on claim 1. Therefore, claims 1-4, 5-9, 10-12, and 32 are patentable over the combination of Costin and Williams, the Examiner's rejection of claims 1-4, 5-9, 10-12, and 32 under 35 U.S.C. § 103(a) is improper, and that rejection should be reversed.

*Independent Claim 14*

Costin in view of Williams fails to disclose or suggest each and every feature of claim 14. Williams does not remedy the deficiencies of Costin that have been identified above. For example, as discussed with regard to claim 1, Williams at least fails to disclose or suggest a relief structure formed from cotton fibers of a security paper produced by a laser as recited in claim 14. This feature, which would not have been obvious to one having skill in the art considering Costin in view of Williams, is incorporated into claim 35 by its dependence on claim 14. Therefore, claims 14 and 35 are patentable over the combination of Costin and Williams, the Examiner's



rejection of claims 14 and 35 under 35 U.S.C. § 103(a) is improper, and that rejection should be reversed.

*Independent Claim 24*

Costin in view of Williams fails to disclose or suggest each and every feature of claim 24. Williams does not remedy the deficiencies of Costin that have been identified above. For example, as discussed with regard to claims 1 and 14, Williams at least fails to disclose or suggest a security paper exposed to the radiation of a laser, such that a relief structure is formed from cotton fibers of a security paper as recited in claim 24. This feature, which would not have been obvious to one having skill in the art considering Costin in view of Williams, is incorporated into claims 25-27, 30-31, and 36 by their dependence on claim 24. Therefore, claims 24-27, 30-31, and 36 are patentable over the combination of Costin and Williams, the Examiner's rejection of claims 24-27, 30-31, and 36 under 35 U.S.C. § 103(a) is improper, and that rejection should be reversed.

**Claim 13 would not have been obvious over**

**Costin and Williams in view of Schell.**

Claim 13 was rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable, by reason of obviousness, over Costin and Williams in view of Schell. This rejection was made in error as claim 13 recites features that are neither disclosed nor suggested by these references.

The Examiner relied on the same arguments for rejection as those cited for Costin in view of Williams. As explained above, those arguments fail. Thus, Schell fails to remedy the deficiencies of Costin and Williams that have been identified above. For example, Schell at least fails to disclose or suggest a relief structure formed from cotton fibers of a security paper produced by a laser as recited in claim 1. Therefore, claim 13 is patentable over the combination

of Costin, Williams, and Schell, the Examiner's rejection of claim 13 under 35 U.S.C. § 103(a) is improper, and that rejection should be reversed.

**Claims 1, 15-16, 23, and 28 would not have been obvious  
over Maurer in view of Costin and Williams.**

Claims 1, 15-16, 23, and 28 were rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable, by reason of obviousness, over Maurer in view of Costin and Williams. This rejection was made in error as claims 1, 15-16, 23, and 28 recite features that are neither disclosed nor suggested by these references.

The Examiner relied on the same arguments for this rejection as those cited for Costin in view of Williams. As explained above, those arguments fail. Thus, Maurer fails to remedy the deficiencies of Costin and Williams that have been identified above. For example, Maurer at least fails to disclose or suggest a relief structure formed from cotton fibers of a security paper produced by a laser as recited in claim 1. This feature, which would not have been obvious to one having skill in the art considering Maurer in view of Costin and Williams, is incorporated into claims 15-16 and 23 by their dependence on claim 1. Similarly, Maurer at least fails to disclose or suggest a security paper exposed to the radiation of a laser, such that a relief structure is formed from cotton fibers of a security paper as recited in claim 24. This feature, which would not have been obvious to one having skill in the art considering Maurer in view of Costin and Williams, is incorporated into claim 28 by its dependence on claim 24. Therefore, claims 1, 15-16, 23, and 28 are patentable over the combination of Maurer, Costin, and Williams, the Examiner's rejection of claims 1, 15-16, 23, and 28 under 35 U.S.C. § 103(a) is improper, and that rejection should be reversed.

**Claims 17-22 and 29 would not have been obvious over Maurer in view of Costin and Williams as applied to claims 1 and 15-16, and further in view of Solmsdorf.**

Claims 17-22 and 29 were rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable, by reason of obviousness, over Maurer in view of Costin and Williams as applied to claims 1 and 15-16, and further in view of Solmsdorf. This rejection was made in error as claims 17-22 and 29 recite features that are neither disclosed nor suggested by these references.

The Examiner relied on the same arguments for rejection as those cited for Costin in view of Williams. Solmsdorf fails to remedy the deficiencies of Costin and Williams that have been identified above. For example, Solmsdorf at least fails to disclose or suggest a relief structure formed from cotton fibers of a security paper produced by a laser as recited in claim 1. This feature, which would not have been obvious to one having skill in the art considering Maurer in view of Costin and Williams, and in further view of Solmsdorf, is incorporated into claims 17-22 by their dependence on claim 1. Similarly, Solmsdorf at least fails to disclose or suggest a security paper exposed to the radiation of a laser, such that a relief structure is formed from cotton fibers of a security paper as recited in claim 24. This feature, which would not have been obvious to one having skill in the art considering Maurer in view of Costin and Williams, and in further view of Solmsdorf, is incorporated into claim 29 by its dependence on claim 24. Therefore, claims 17-22 and 29 are patentable over the combination of Maurer, Costin, Williams, and Solmsdorf, the Examiner's rejection of claims 17-22 and 29 under 35 U.S.C. § 103(a) is improper, and that rejection should be reversed.

**CONCLUSION**

In view of the foregoing, Appellants respectfully submit that all grounds of rejection of claims 1-36 are submitted to be unsupportable on the record and thus improper. The Honorable Board is therefore respectfully requested to reverse all grounds of rejection and to direct the passage of this application to issue.

Please charge any fee or credit any overpayment pursuant to 37 C.F.R. § 1.16 or § 1.17 to Deposit Account No. 02-2135.

**CONTINGENT AUTHORIZATION TO CHARGE DEPOSIT ACCOUNT AND**  
**CONTINGENT PETITION FOR EXTENSION OF TIME**

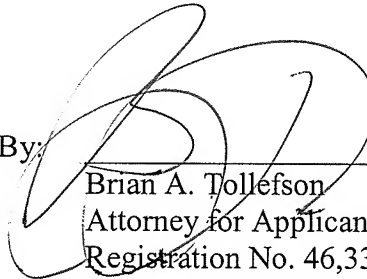
As noted above, Appellants previously paid the Appeal Brief fee with the Appeal Brief filed March 22, 2010. Because the Examiner chose to reopen prosecution, as opposed to responding to the previously filed Appeal Brief, the previously paid Appeal Brief is hereby applied to the filing of this Appeal Brief. If, however, the Office determines that additional fees are due, it is authorized to charge such fees to Counsel's Deposit Account No. 02-2135.

Appellants hereby petition for any extension of time which may be required to maintain the pendency of this case, and any required fee for such extension is to be charged to Deposit Account No. 02-2135.

Respectfully submitted,

Date: December 13, 2010

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### **VIII. CLAIMS APPENDIX**

The following claims are involved in this appeal:

1. Document of value, comprising:  
  
a security paper having at least one tangible marking in the form of a relief structure;  
  
wherein the relief structure is formed from cotton fibers of the security paper and is produced by a laser.
2. Document of value according to claim 1, characterized in that the document of value in the area of the tangible marking has a visually noticeable colour alteration.
3. Document of value according to claim 1, characterized in that the security paper in the area of the tangible marking is blackened.
4. Document of value according to claim 1, characterized in that the colour alteration is produced with the laser.
5. Document of value according to claim 1, characterized in that the tangible marking has a relief height of 30  $\mu\text{m}$  to 100  $\mu\text{m}$ .
6. Document of value according to claim 1, characterized in that the security paper contains additives at least in certain areas, which intensify at least one of the colour alteration or relief formation.

7. Document of value according to claim 1, characterized in that the security paper contains at least proportions of fibers of annual plants.

8. Document of value according to claim 1, characterized in that the security paper includes a mixture of cotton fibers and plastic fibers.

9. Document of value according to claim 1, characterized in that the relief structure of the marking has at least one of different relief heights or degrees of blackening.

10. Document of value according to claim 1, characterized in that the tangible marking is present in the form of alphanumeric characters, bar codes, patterns or microwriting.

11. Document of value according to claim 1, characterized in that several tangible markings are present on the document of value.

12. Document of value according to claim 1, characterized in that several tangible markings are present on the document of value that are connected to each other with regard to content.

13. Document of value according to claim 1, characterized in that the tangible marking is connected to a different information on the document of value with regard to content.

14. Security paper for documents of value, comprising at least one tangible marking in the form of a relief structure formed from cotton fibers of the security paper, that is produced by laser.

15. Document of value or security paper according to claim 1, characterized in that the document of value or security paper has a coating and that the tangible marking is at least partially disposed in the area of this coating.

16. Document of value or security paper according to claim 15, characterized in that the coating is a multilayer security element.

17. Document of value or security paper according to claim 16, characterized in that the security element has at least one plastic layer and one metal layer, at least the metal layer at least in the area of the tangible marking being removed by the action of the laser.

18. Document of value or security paper according to claim 17, characterized in that the plastic layer has a diffraction structure.

19. Document of value or security paper according to claim 17, characterized in that the area, in which the metal layer is removed, is larger than the area provided with a tangible marking.

20. Document of value or security paper according to claim 1, characterized in that the document of value or security paper has a junction between paper and foil and that the tangible marking extends beyond the paper/foil borderline area.

21. Document of value or security paper according to claim 15, characterized in that the coating is a print.



22. Document of value or security paper according to claim 21, characterized in that the print and the tangible marking are disposed to each other in such a way, that an optically variable element is the result.

23. Document of value or security paper according to claim 1, characterized in that the document of value or security paper has a multilayer form.

24. Method for producing a tangible marking in a document of value, which includes a security paper characterized in that the security paper is exposed to the radiation of a laser, and that the inscription parameters of the laser and the composition of the security paper are adjusted to each other in such a way, that the result is the tangible marking in the form of a relief structure that is formed from cotton fibers of the security paper.

25. Method according to claim 24, characterized in that the inscription parameters are selected in such a way, that in addition to the tangible marking a visually noticeable colour alteration of the security paper is the result.

26. Method according to claim 24, characterized in that the security paper is blackened by the laser radiation in the area of the tangible marking.

27. Method according to claim 24, characterized in that the inscription parameters of the laser are adjusted in such a way, that at least one of different relief heights or degrees of blackening in the security paper are the result.

28. Method according to claim 24, characterized in that a coating is applied to the document of value or security paper before the inscription with the laser, and the tangible marking is at least partially produced in the area of this coating.

29. Method according to claim 24, characterized in that as a coating a multilayer security element is applied with the help of the transfer method.

30. Method according to claim 24, characterized in that a Nd:YAG laser is used.

31. Method according to claim 24, characterized in that the inscription with the laser is effected in a high-speed fashion as usual for security printing works.

32. The document of value of claim 1, comprising a bank note.

33. The document of value of claim 5, wherein said tangible marking has a relief height of between 30  $\mu\text{m}$  to 80  $\mu\text{m}$ .

34. The document of value of claim 7, wherein said fibers of annual plants comprise at least one of cotton, linter, or flax.

35. The security paper of claim 14, wherein said documents of value are bank notes or ID cards.

36. The method of claim 24, wherein said document of value comprises a bank note.

## **IX. EVIDENCE APPENDIX**

There has been no evidence submitted to or entered by the Examiner that is being relied upon by Appellants in this appeal.

## **X. RELATED PROCEEDINGS APPENDIX**

There have been no decisions rendered by a court or the Board in any related proceedings.